

# TMP21 (F-7): sc-137004



The Power to Question

## BACKGROUND

TMP21 (21 kDa transmembrane-trafficking protein), also known as TMED10 (transmembrane emp24 domain-containing protein 10), Tmp-21, S311125, S3111125, p23 or p24 $\delta$ , is a member of the EMP24/GP25L/p24 cargo family of proteins that regulates vesicular trafficking in the early secretory pathway. TMP21 is a ubiquitously expressed single-pass type I membrane protein localizing to the Golgi cisternae and the plasma membrane. It contains one GOLD (Golgi dynamics) domain and participates in protein transport and quality control between the endoplasmic reticulum (ER) and the Golgi complex. In addition, TMP21 is a component of the heteromeric secretase complex (or presenilin complex) and functions to regulate the  $\gamma$ -secretase activity. Two isoforms, namely TMP21-I and TMP21-II, exist for this protein.

## REFERENCES

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- Blum, R., et al. 1999. Intracellular localization and *in vivo* trafficking of p24A and P23. *J. Cell Sci.* 112: 537-548.
- Hörner, J., et al. 1999. A comparative study of rat and human TMP21 (P23) reveals the pseudogene-like features of human TMP21-II. *DNA Seq.* 10: 121-126.
- Baker, L.A., et al. 2000. TMP21-I, a vesicular trafficking protein, is differentially expressed during induction of the ureter and metanephros. *J. Urol.* 164: 562-566.
- Barr, F.A., et al. 2001. Golgi matrix proteins interact with p24 cargo receptors and aid their efficient retention in the Golgi apparatus. *J. Cell Biol.* 155: 885-891.
- Wang, H., et al. 2002. Chimaerins, novel non-protein kinase C phorbol ester receptors, associate with TMP21-I (P23): evidence for a novel anchoring mechanism involving the chimaerin C1 domain. *J. Biol. Chem.* 277: 4541-4550.
- Chen, F., et al. 2006. TMP21 is a presenilin complex component that modulates  $\gamma$ -secretase but not  $\epsilon$ -secretase activity. *Nature* 440: 1208-1212.

## CHROMOSOMAL LOCATION

Genetic locus: TMED10 (human) mapping to 14q24.3; Tmed10 (mouse) mapping to 12 D2.

## SOURCE

TMP21 (F-7) is a mouse monoclonal antibody raised against amino acids 41-105 mapping near the N-terminus of TMP21 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

TMP21 (F-7) is recommended for detection of TMP21 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for TMP21 siRNA (h): sc-63135, TMP21 siRNA (m): sc-63136, TMP21 shRNA Plasmid (h): sc-63135-SH, TMP21 shRNA Plasmid (m): sc-63136-SH, TMP21 shRNA (h) Lentiviral Particles: sc-63135-V and TMP21 shRNA (m) Lentiviral Particles: sc-63136-V.

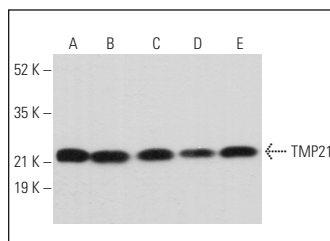
Molecular Weight of TMP21: 26 kDa.

Positive Controls: SCC-4 whole cell lysate: sc-364363, MCF7 whole cell lysate: sc-2206 or HeLa whole cell lysate: sc-2200.

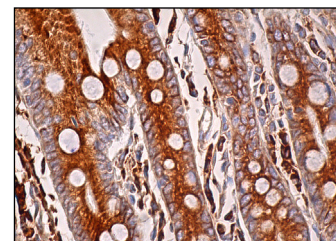
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgG $\kappa$  BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



TMP21 (F-7): sc-137004. Western blot analysis of TMP21 expression in HeLa (A), SCC-4 (B), MCF7 (C), NIH/3T3 (D) and C6 (E) whole cell lysates.



TMP21 (F-7): sc-137004. Immunoperoxidase staining of formalin fixed, paraffin-embedded human duodenum tissue showing cytoplasmic staining of glandular cells.

## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.